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ABSTRACT

This paper discusses the key role of information in helping minority group parents and students gain access to postsecondary education and offers a descriptive framework for understanding information needs and availability. The framework is a taxonomy of the kinds and types of information needed by students and parents in order for the student to successfully enroll in and complete postsecondary education, and the ways in which these needs change over time. The framework is largely based on the Donald Hossler model, which suggests that information needs may be catalogued into one of two categories: academic and financial. Academic information may be broken down into curriculum requirements and performance requirements. Financial information breaks down into three types: (1) the cost of college and the necessary planning and preparation needed to pay for college; (2) the returns education offers for those who complete in their program of study; and (3) the availability of financial aid for students. Research on information availability indicates that systems often do not take student and parent information needs into account, that students and parents are dissatisfied with the information they do receive, and that access to information resources and services may be more limited for low income high school students. (JB)

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SYMPOSIUM ON INFORMATION RESOURCES, SERVICES, AND PROGRAMS

Background Paper Number Two

A Review of the Level and Quality of Information Resources and Programs Available to Students and Parents

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May 1990

Advisory Committee on Student Financial Assistance

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A Review of the Level and Quality of Information Resources and Programs Available to Students and Parents

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Prepared for the

Advisory Committee on Student Financial Assistance

May 1990

I. INTRODUCTION

Throughout the educational process, students and their parents are subject to several forms and sources of information. This information might relate to the necessary secondary school curriculum for college entrance, the cost of attending college and the financial aid available, or a host of other types of information. Each source of information is an important piece in the long term process leading up to postsecondary enrollment and completion.

Information is a key component of the many forms of intervention strategies that are used to more adequately prepare and inform students and parents. By "information" we refer not only to facts and data about college, but also the types and sources of financial aid, the availability of remedial and tutorial services, the sufficiency of curriculum, and other pieces of knowledge. Information is a necessary, but not sufficient, component in broader efforts to improve the postsecondary participation and degree attainment of minority students.

There are clearly many factors which affect the participation of minority and other disadvantaged students in postsecondary education. As a companion document to this paper points out, the reasons for this are both complex and diverse.[1] The variables

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[1] "Factors Affecting Minority Participation in Higher Education: A Research Synthesis."

that the literature suggests have an effect on postsecondary participation span the timeline of the educational process, from elementary school through the collegiate level. These factors are concerned with both social and educational contexts.

Research suggests that environmental or social influences on youth play a critical role in determining post-schooling work or educational plans. The literature indicates that factors such as poverty and crime play a large and sometime overwhelming part in setting the future path of at-risk youth. These factors begin to affect disadvantaged youth at an early age, and have additive effects as time progresses.

However, the literature also notes that many educational factors play an important role in this process. For example, the research shows that in the elementary and early secondary grades, inadequate academic preparation, as seen through low grades or poor test scores, is apparently important in determining the later educational direction of at-risk minority youth. Likewise, ability grouping has also been identified as a negative factor. So-called "pullout" programs also have been noted to have negative consequences: they pull students (many of whom are minority) away from instruction in basic subjects for the sake of special needs course, thus inhibiting later academic progress. Further, a dearth of minority teachers may also be a part of the equation leading to low levels of postsecondary involvement by minorities. Many other factors have also been identified in the literature.

At the secondary level, several factors have been cited in the research as contributing to inadequate collegiate participation by minority students. Tracking, like ability grouping at the earlier levels, has been found to limit the chances of minority students in successfully proceeding to higher education. Curricula, as well as the textbooks, diagnostic tests, and other materials incorporated into curricula, may also have an effect on collegiate participation because of cultural and social biases, according to top researchers. The practice of many schools of using grade retention or school suspension as methods of classroom discipline and advancement may also have an effect on the later plans of minority and disadvantaged students, according to the literature. Other important factors identified in the literature include high teacher to student ratios, the limited number of minority role models for students in the schools, and many others.

At the college level, several factors related to poor levels of completion and degree attainment by minority students have been identified. These include poor academic preparation (primarily because of failures in the pre-college years) and the failure to integrate minority students into the mainstream of a college's social and intellectual culture. Poor integration into both the intellectual framework of an institution--either because of negative faculty contacts or a lack of mentors--and the social fabric beyond basic peer contact also are important in influencing retention and completion, according to the most recent inquiries on this subject. There are also many

other factors to which the literature points as contributing to unacceptable retention and completion rates.

Thus the factors affecting access to and enrollment in postsecondary education are complex in nature and diverse in type. In order to help further understanding of the role that information plays in this process, and to more adequately describe the level and quality of information that currently exists, it may be helpful to examine information in a descriptive framework. This framework is best characterized as a taxonomy of the kinds and types of information needed by students and parents in order for the student to successfully enroll in and complete postsecondary education, and the ways in which these needs change over time.[2]

Exhibit One depicts this model of student and parent information needs. The exhibit indicates that information needs may be catalogued into one of two categories: academic, and financial. Academic information needs may be further broken down into two strata. First would be the curriculum requirements needed to pursue and stay on

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[2] This framework of student and parent information needs builds on the theoretical model of student choice developed by Hossler. The Hossler model is divided into Aspiration, which covers the period up to the tenth grade, Search, which spans the sophomore and junior years of high school, and Choice, which includes the senior year. The main differences between the Hossler model and the one used in this paper is that the Hossler model does not deal with the retention and completion issues at the college level, and does not explicitly discuss the two main categories of information (academic and financial, as described below). Nevertheless, the Hossler model is an important and valuable contribution to the literature. See Donald Hossler, et. al., "Understanding Student College Choice," In Higher Education: Handbook of Theory and Research (New York: Agathon Press, 1989).

the college track. Second would be the performance requirements, as evidenced by grades, test scores, and other measures, needed to achieve and succeed.

Financial information needs may be broken down into three broad types. First is the cost of college and the necessary planning and preparation needed to pay for college. Second is the returns to education for those who achieve and/or complete in their program of study. And third is the availability of financial aid for students.

The exhibit also shows that information needs change as the student moves through the educational process. The four main stages in the information process have been identified as: the period up to the ninth grade, including elementary and middle school; the middle secondary grades, which equate with the tenth and eleventh grades of high school; the senior year of high school and the transition to post-schooling activities; and the period that incorporates the college years and beyond.

In each cell of this matrix should be the types of information needed in each of the subcategories at the various stages in the educational process. For example, the information needs of students and parents about curriculum requirements in the time period up to the ninth grade would include information about the courses that students would need to take in order to put them into college preparatory classes in high school. It might also include knowledge of some measure of student aptitude in certain subject areas, as demonstrated by scores on standardized tests.

Exhibit One

A FRAMEWORK OF STUDENT AND PARENT INFORMATION NEEDS

Stages in the Educational Process

Categories of Information

	I. Thru 9th Grade	II. 10th & 11th Grades	III. 12th Grade	IV. College & Beyond
ACADEMIC	------- General ----------		Very Specific ----------	>
--Curriculum Requirements				
--Performance Requirements				
FINANCIAL	------- General ----------		Very Specific ----------	>
--Costs of College				
--Returns to Education				
--Availability of Aid				

Moving across the framework to the second stage (10th and 11th grade), students and parents would need to know about things such as what specific courses or programs of study are necessary to enter various types of college. Continuing into the senior year of high school, they would need to know fairly precisely whether the curriculum the student has pursued is appropriate for the type of institution or program of study that is desired. At the college level--when concerns change from participating in college to persisting and achieving a degree--students would need to know about the different majors offered, what courses are needed to gain the degree in the chosen major, which courses are needed for graduate study in a specific area, and other types of information.

In terms of the second level of academic information that is needed by students and parents--classified here as performance requirements--students and parents in the first educational stage (up to the ninth grade) would need to know in general that good performance in all subjects is imperative. They would also need to know about things such as the approximate grades necessary in those courses in order for the student to proceed into the college preparatory track in high school (and subsequently into college).

In the tenth and eleventh grades, students and parents would need to know how well performance in terms of grades and PSAT scores (or other measures) will dictate

the kinds and types of postsecondary institutions that should be considered. In the twelfth grade, they might need to know precisely how their performance in high school, including grades and SAT or ACT scores, matches with the kinds of general requirements and reputations of the specific schools to which the student wishes to apply. At the college level, students would need to know if their performance is sufficient to meet the college's academic requirements (to avoid probation or suspension), whether their performance overall or in the chosen major is appropriate for matriculation at the graduate level (or in the job market for certain majors), and other types of information about achievement.

In the other main category of information--financial--examples of the types and kinds of information needed in each of the subcategories can be described. For instance, in the costs of college category, students in the early educational years would need to know in general terms that there is a family cost associated with going to college. Parents might also need to know this in order to influence savings and financial planning behavior.

Moving into the early high school years, both students and parents would need to know how costs vary across types of institutions and roughly whether their resources are sufficient (assuming also that there is a knowledge of financial aid availability). Those in the senior year of high school might need to know exactly what the costs are of the set of institutions to which the student wishes to apply. And those at the college

level would need to have some knowledge about the costs in subsequent years of enrollment, the costs of transferring from a two year to a four year program, the price of graduate education, and other types of information.

In the returns to education subcategory, students and parents in the "up to ninth grade" category would probably need to know about the differences in earning potential of those who receive a high school diploma versus those who receive some college degree (or versus those who drop out). They might also need to know about the other economic returns--such as home ownership, ability to purchase consumer goods, and other types of information--for those who earn higher levels of income because of educational attainment.

In the 10th and 11th grades, students and parents would need to begin differentiating between earnings possibilities for those who enter the workforce immediately upon high school graduation compared to those who receive an associate degree, bachelor's degree, or other postsecondary credential. Those in the senior year of high school might need to know what the returns would be by institutional type (and perhaps name or reputation) and by the intended program of study. For college students, the types of information they might need to know would include the returns to certain fields of study (or specific majors), the returns to different degree levels, the increased post-college burden of taking out loans for further training, and other types.

In the availability of aid category, students in the earliest points of the educational process might need to know that financial help is available from somewhere. Parents might need to know that there are different kinds of aid available (grants, loans, work) and that aid is available from several different sources.

In the early high school stage of the educational process, students and parents would need to know about things such as how much aid will be available given their approximate family financial circumstances. In the senior year of high school, they would need to know about specific aid programs and how to apply for various kinds of aid. At the college level, they would need to know about how to reapply for aid, whether or not the aid package might change from year to year (because of changes in financial circumstances or in the kinds of aid awarded in the later years of college), and if aid would be available for graduate training.

As the exhibit indicates, and as these examples of the types of information needs at each of the stages show, student and parent information needs are a continuum that begins early in the educational process and continues into and through college. Across this continuum, information needs increase in specificity. Thus, across all categories of information, student information needs remain fairly broad in the pre-high school years. In high school, as well as while enrolled in college, information needs grow more refined and specialized as decisions about post-schooling plans are made.

Based on the theoretical model of student and parent information needs that is described here, we can derive that this paper should explore two central questions about the role of information. These questions help to drive the further investigation undertaken in this paper. The questions are:

- What kinds and types of information are needed by students and parents?
- How do these information needs change over time?

The literature's exploration of these questions (or its silence on them) will then help to describe what we know about the importance of information in influencing participation in college. This, in turn, will help the Advisory Committee on Student Financial Assistance to evaluate and appraise the adequacies and deficiencies of current resources and services.

It is important to note that the framework of student information needs conveyed in this introduction is not practical for the purposes of examining the key questions about the role of information. Because the model described here is not contained anywhere in the literature, one finds that the research that has been conducted tends to rely on the traditional schooling model--pre-high school, high school, and college. While it is important to consider the second and third stages of the framework as distinct, for the practical purposes of this paper the discussion of

information at the high school level is unified. The breakdown into pre-high school, high school, and the college level also conforms to the construct in the companion paper, "Factors Affecting Minority Participation in Higher Education: A Research Synthesis."

II. DISCUSSION

Information is available to students and parents at all points in the educational process. What students and parents know at each of the various stages, along with the effectiveness of the information that they have received, is therefore critical to understanding the role of information in influencing postsecondary participation. This section examines the literature's discussion of information at each of the three traditional educational stages: the elementary and early secondary grades; the high school level; and the college level.

The discussion contained herein is not intended to be an exhaustive review of all of the literature about information in the educational process. Others have done more extensive reviews and summaries of this literature, particularly with respect to the information about the availability of financial aid.[3] Instead, this paper intends to provide a firm understanding of the kinds and types of information that students and parents currently have and how their knowledge changes over time. This will then help to further the Advisory Committee's discussion and deliberations about the adequacies and deficiencies of current information resources and services.

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[3] We are grateful to John B. Lee for sharing with us one such review of this literature in unpublished form. The bibliography of the Lee study was used as the foundation of the base of studies examined for inclusion in this paper. See John B. Lee, " Awareness of Junior and Senior High School Students About Student Aid: A Research Synthesis of the Literature," (unpublished), February, 1990.

Elementary and Early Secondary Grades

One of the central hypotheses that has been advanced recently regarding minority participation in higher education is that at-risk students fail to receive enough good information about the returns to education early enough in the educational process to sufficiently influence their decision to pursue postsecondary education.[4] Further, as Olivas has pointed out, "Information inequities have a negative impact on minority communities, and particularly bilingual communities, which depend on different and less formal information systems than do majority populations. Studies of underparticipation by extremely poor families in social service programs, as a consequence, have attributed the low rates to poorly designed information delivery systems."[5] Thus, one would expect to find in the literature evidence of inadequate information early in the educational process (and especially in middle school, when many plans for the future are devised), with an added burden on low income and minority students and families.

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[4] See, for example, National Association of Student Financial Aid Administrators and the American Council on Education, Certainty of Opportunity, A Report on the NASFAA/ACE Symposium on Early Awareness of Postsecondary Education (Washington, DC: NASFAA, 1989).

[5] Michael A. Olivas, "The Retreat from Access," Academe, Vol. 72, No. 6 (November-December, 1986), 16-18.

Regrettably, few studies have adequately examined the information needs of students and parents prior to high school enrollment. Those studies that have been conducted suggest that the amount of information resources and programs available in the elementary and early secondary grades is insufficient. Some of these studies also address the question of the quality of the information that is received. Here, too, the literature suggests that there are key gaps in the information system.

The voids in information are apparent on many fronts. For example, in terms of information that may be broadly categorized as financial, awareness of financial aid among parents of junior high school students has been found to be quite low. Dixon's survey of parents of eighth graders in Illinois found that only 51 percent had heard of guaranteed student loans, and only 28 percent had heard of Pell Grants. She also found that those parents from lower income communities or whose children attended public schools in Chicago knew considerably less about student aid than those from the wealthier Chicago suburbs or whose children attended private schools.[6] Notably, while few were apparently aware of financial aid, 65 percent of all respondents expected to receive financial assistance.

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[6] Rhonda Dixon, "Parents of Illinois Eighth Graders: A Survey of Their Knowledge about Academic and Financial Planning for Their Child's Education Beyond High School," Journal of Student Financial Aid Vol. 18, No. 1 (Winter, 1988), 29-36.

This study also found that parents were generally dissatisfied with the information that they did receive. Eighty six percent wanted to know more about aid in general, and another 73 percent wanted to know more about the likelihood of their receiving aid. The low response rate to this survey (38 percent), and the fact that non-respondents were much more likely to be parents of students attending inner city schools, limits the extent to which these findings can be generalized, however.

A study of ninth grade students in Pennsylvania looked more broadly at awareness of financial aid.[7] This study asked students if they received information about student aid from their schools. Fifty nine percent of respondents indicated that they had not received any information about student aid. Interestingly, black students, females, and those who said that they did not expect to attend college reported a higher incidence of receipt of information about student aid than their counterparts. Nevertheless, more than one half of all students, including target populations, indicated that they had received no information about student aid from their schools.

This study also asked students about the usefulness of the information that they did receive. In general, non-white students found that the information about student aid that they received from their schools was helpful. This was also true for low

[7] Pennsylvania Association of Colleges and Universities, Student Postsecondary Plans and Activities Study: Technical Reports (Harrisburg, PA: PACU, 1983).

income students. Those who reported that they were bound for postsecondary education said that they found the student aid information more useful than those who were not planning on pursuing postsecondary education.

A more recent national study of parents of students in grades seven to ten also found that there is a dearth of knowledge about financial aid programs. This qualitative study by Brouder involved the convening of focus groups in four cities (Los Angeles, CA; Bridgeport, CT; Cleveland, OH; and Miami, FL). Each group included from 10 to 14 participants. The study found that knowledge of student aid was limited mostly to those parents who were student aid recipients when they attended college. Unfortunately, methodological considerations (for instance, there is no indication of how information was collected) and the fact that focus groups were restricted to middle income parents (those with incomes between $20,000 and $30,000) limit the utility of this study.[8]

Davis' 1989 study of junior high school students and parents examined willingness to participate in information-based planning activities.[9] Students from Pennsylvania in grades seven to ten were asked 25 questions related to different forms of information-

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[8] Kathleen Brouder, "Parental Attitudes Toward Pre-College Planning," Journal of Student Financial Aid, Vol. 17, No. 2 (Spring, 1987), 5-13.

[9] Jerry S. Davis, "Junior High School Students' Interest in 'Early Awareness' Program Activities," Journal of Student Financial Aid, Vol. 19, No. 2 (Spring, 1989), 4-14.

based activities, such as using computer-based guidance programs, listening to a talk on admissions processes, and watching a TV program about a specific occupation. Overall, only 44.1 percent said they would like to participate in any activities. Davis concludes that early awareness activities are "unlikely to be well-received by a significant proportion of junior high school students."[10] He does note, however, that early information programs can reinforce plans of students who consider themselves to be postsecondary education-bound. He also points out that information activities might be better targeted on parents at this point in the educational process.

Two of the previous studies also examined--to some degree--awareness about college costs. Dixon's study found that 56 percent of parents indicated that they could not estimate the cost of college. Parental responses ranged from $30 to $60,000 per year.[11] Similarly, Brouder's study found that only about one-half of parents could approximate the cost of a college education. Notably, most of the others guessed too high. Brouder also notes that none of the focus group participants had "any idea about what college will cost when it is finally time to send their own children."[12]

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[10] Ibid., 13.

[11] Dixon, Ibid., 30.

[12] Brouder, Ibid., 7.

Another category of information that parents and students need to know about is broadly defined as academic information. Here, too, it appears that parents and students are unfamiliar with the academic preparation needed to attend college. According to Brouder's study, only about one third of study participants had any idea about the kind of academic preparation (both in terms of curriculum and performance) that their children would need. Parents who had attended college themselves were found to be more likely to have an opinion about the level of preparation needed. Brouder notes that one encouraging finding of the study is that "the degree of knowledge that a parent has seems to be largely a function...of prior counselor or teacher intervention."[13]

Also on the topic of awareness about academic preparation, Dixon's study asked parents of eighth graders if they were aware of recently enacted changes to the state's system of admissions requirements for public universities and community colleges. She reports that 57 percent of all parents had not heard about these expanded requirements. However, by geographic region, a stark contrast was observed. Parents in suburban areas were significantly more aware of these changes (48 percent had

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[13] Brouder, Ibid., 7.

heard of the changes) than those parents with students in the city of Chicago school system (only 13 percent had heard). Dixon also found that 76 percent of all parents wanted more information about admissions requirements.[14]

The Keeping the Options Open study completed in 1986 found, in an analysis of survey data, that only 46 percent of the students who expected in grade 9 that they would enter college reported being in an academic (or college-bound) curriculum of study in grade 10.[15] This number increased to 52 percent by the senior year of high school. This suggests that students in the middle school years have a serious lack of awareness about the curriculum requirements needed to proceed to college. It also indicates that this dearth of knowledge may continue at the high school level.

Thus students and parents appear to be inadequately informed about several categories of financial and academic information. This suggests that information, while just one part of the complex process leading up to the decision to enroll in college, may have important shortcomings early in the educational process.

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[14] Dixon, Ibid., 30.

[15] College Entrance Examination Board, Keeping the Options Open, Interim Report of the Commission on Precollege Guidance and Counseling (New York: The College Board, 1986), 8.

Secondary Grades

The bulk of the research pertaining to the information that students and parents receive is concentrated on the high school level. This is no doubt due in part to the historic emphasis placed on traditional counseling and information programs (such as the federal TRIO programs or the typical high school guidance counseling) which have been more narrowly concerned with post-high school planning. We would therefore expect to find in the literature evidence which suggests that students and parents are more informed at the high school level than at earlier stages. Their knowledge of both the financial and academic requirements of attending college should be of a level and quality sufficient to make an informed choice about enrolling in a postsecondary institution.

Unfortunately, the literature in this area, like the more limited research related to the elementary and junior high school grades, suggests that there are many gaps in the information needs and desires of secondary students and families. When looking at the literature's examination of the various subcategories of financial information, one finds that knowledge is somewhat improved when compared to the earlier years but is still greatly insufficient. For example, a 1983 study of high school seniors asked students whether they had received any information from their school about student

assistance programs and availability.[16] Approximately 28 percent indicated that they had not received any information about aid. While this number is significant, it compares favorably with the 59 percent reported by high school freshmen (see previous section), and is an indication that many students do receive information about aid, but perhaps too late. Regrettably, the study also notes that those students attending inner city public schools were the least likely to have received information about student aid.

Another study relative to student knowledge about financial aid, published in 1984, found that 17 percent of high school seniors reported no knowledge of the College Work Study program, 18 percent had no awareness of Pell Grants, and 26 percent did not know of the Guaranteed Student Loan program. This study of the 1980 High School and Beyond senior cohort also found that knowledge of the GSL and Pell programs was correlated with socioeconomic status.[17]

Other studies regarding high school student knowledge about student aid and other information have focused on the source and importance of the information they have received. For instance, Orfield's examination of the High School and Beyond

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[16] Pennsylvania Association of Colleges and Universities, Ibid. Seniors were asked some of the same questions as those asked of freshmen, as reported in the previous section.

[17] Steven A. Higgins, "Who Knows and Who Goes? Student Knowledge of Federal Financial Aid Programs and College Attendance," Journal of Student Financial Aid, Vol. 14, No. 3 (Summer, 1984), 19-26.

senior cohort for a sample of Illinois students found that the average number of guidance counselors was considerably different by geographic area. Schools in suburban areas were found to have, on average, twice as many counselors as city schools. And yet urban minority students were found to be more receptive to counseling assistance than other students. Orfield observes that "city school students receive the least help, though counselor's help is considerably more important to their ultimate college decisions..."[18]

A 1986 national survey of high school guidance counselors and students found that nearly all high school students have access to basic information about college planning. For example, 91 percent reported that students had access to information about financial aid for college, while another 98 percent reported that their school had a college catalog library. However, the study found that access to information about college was not sufficient. The importance of attending college to the overall school population was found to be an important factor in determining a school's emphasis on

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[18] Gary Orfield, Howard Mitzel, and others, The Chicago Study of Access and Choice in Higher Education, A Report to the Illinois Senate Committee on Higher Education (Chicago: University of Chicago, 1984), 129.

making students aware of college opportunities. The study concludes that those schools serving a high percentage of low income students have fewer pre-college services and dedicate a lower percentage of counselor time to college counseling.[19]

A study of first-time applicants to the New York state grant program inquired about the sources and importance of information about college that students had received.[20] Nearly twenty percent of students in the survey had not spoken with a counselor at all about college planning, and another 28 percent had not talked about student aid with a counselor. When students were asked to rank the importance of different sources of information, they rated college visits highest, followed by college financial aid administrators, the state student aid agency, college admissions officers, and college catalogues.[21] Parents, friends and relatives, and college fairs were next on the list. High school counselors are rated next, but clearly fall much lower on the list than colleges and informal sources. Other studies support these findings.[22]

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[19] National Association of College Admissions Counselors, Frontiers of Possibility: Report of the National College Counseling Project (Burlington, VT: NCCP, 1986).

[20] David W. Chapman, et. al. "The Effectiveness of the Public School Counselor in College Advising," Journal of College Admissions, Vol. 115 (Spring, 1987), 11-18.

[21] The fact that the survey was conducted of state student aid applicants may account for the unusual inclusion of the state agency among the most important sources.

[22] See, for example, M.A. Cibik, "College Information Needs," College and University, Vol. 58 (1982), 97-102. This is a survey of college applicants in Arizona.

Studies of parental knowledge about student aid show a similar lack of awareness. A study using a national sample of parents of high school sophomores and seniors found that less than one half had any knowledge about specific aid programs.[23] Only about 48 percent were aware of the College Work Study program, with 47 percent and 45 percent aware of the Pell program and GSL program, respectively. There was even less recognition of the other campus-based federal aid programs.

This study also examined the relationship between parental knowledge about aid programs and race, income, and other variables. The researchers found that family income and the level of parents' education were most strongly associated with knowledge about specific aid programs. Perhaps significantly, they found that those with incomes under $30,000 were slightly more knowledgeable about Pell Grants than those with income over $30,000, who were apparently more aware of loan programs.

Several studies, including some of those cited previously, have explored student knowledge about college costs. Like the studies about awareness of student aid, these studies suggest that many are not knowledgeable or are misinformed. For example, a study of the 1980 High School and Beyond senior cohort by Ekstrom found that

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[23] Lorayn Olson and Rachel Rosenfeld, "Parents and the Process of Gaining Access to Financial Aid," Journal of Higher Education, Vol. 55, No. 4, 455-480.

students typically overestimate the cost of attendance.[24] Students were found to significantly over-estimate the cost of attending community colleges and public four year institutions--by more than 200 percent in both instances. These sectors are where the vast majority of students in higher education are enrolled. Ekstrom also found that those with a higher reported socioeconomic status were more informed about college costs.

The previously noted study of Pennsylvania seniors found that students greatly underestimate the cost of college in the state.[25] This study showed the opposite trend compared to the Ekstrom study; that is, students were more accurate in their estimates of college costs at four year private institutions than they were for public colleges. Nevertheless, this study also indicates that students knowledge of costs is limited, as suggested by the tremendous disparity between actual college costs and students' estimates.

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[24] Ruth B. Ekstrom, "A Descriptive Study of Public High School Guidance: Final Report to the Commission for the Study of Precollegiate Guidance and Counseling," Princeton: Educational Testing Service, June, 1985.

[25] Pennsylvania Association of Colleges and Universities, Ibid.

A 1988 survey of high school students conducted by the Gallup Organization for the Council for Advancement and Support of Education (CASE) found similar results to the Ekstrom study.[26] Annual college cost estimates by students were found to be three times higher than the actual cost at two and four year public institutions. This study further supports the notion that students are largely unaware of the true cost of attending college.

Another survey conducted by the Gallup Organization for CASE, this one in 1989, found that many people are also misinformed about the economic returns of higher education. Those surveyed were asked if the overall value most college graduates get back in their lifetime is worth more, less, or about equal to what they pay. Only 39 percent of all respondents said they believe the value of a college education is worth more than what is paid; 57 percent said they thought it was about equal or worth less. Perhaps more importantly, however, is the fact that non-white and low income respondents rated the value of a college education much lower than others. Only 25 percent of non-whites and 27 percent of those with incomes below $20,000 said they believe the value is worth more than what is paid.[27]

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[26] Council for Advancement and Support of Education, "Survey on Participation in Higher Education Among Young People 13-21 Years of Age," Washington, DC: CASE, 1988.

[27] Council for Advancement and Support of Education, "Attitudes About American Colleges," Washington, DC: CASE, October, 1989.

Studies of student and parent knowledge about the other broad category of information--academic--also indicate major shortcomings. For example, the Keeping the Options Open study's examination of High School and Beyond data found that those students who reported talking "a great deal" with guidance counselors about the proper academic planning for college (in terms of curriculum) also reported taking more courses in English, math, science, and other college preparatory track courses. This was confirmed through an analysis of student transcripts. Thus those high school students who had more information about the curriculum requirements of entering college appear to be better prepared for actually enrolling in college.

The literature suggests that students and parents at the high school level possess a relatively higher amount of knowledge about the broad financial and academic requirements of enrolling in college. Still, on the whole the level and quality of information that they have is limited. This suggests that information--though only one part of the complex decisionmaking process leading up to college participation--is inadequate at this level.

College Level

The goals of information resources and programs change when students reach the college level. Once access to a postsecondary education has been achieved--as

evidenced by the student's enrollment–the purposes and designs of information services are altered to emphasize student retention and degree completion. Thus information at this level is less concerned with knowing about college than it is with knowing how to succeed in college. Ideally, then, one would expect to find in the literature evidence that information contributes positively to the eventual degree attainment of students.

However, the research on why students leave college suggests that information is often a missing or lacking component and therefore contributes to dropping out. This is especially true for the broad category of information defined as academic. For example, a study of counseling and advising at the college level found that access to such services are not sufficient to avoid dropping out. Counseling and advising were found to be most effective when they are presented as a positive part of the educational process, and not just for those "in trouble."[28] Tinto concurs with this finding, arguing that effective programs are not merely a function of "the simple availability of such services, but in the manner in which they are presented."[29] Perhaps more importantly, both concur that counseling helps to clarify a student's goals, the absence of which calls into question their enrollment in college.

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[28] D. Creamer, "Educational Advising for Student Retention: An Institutional Perspective," Community College Review, Vol. 7 (1980), 11-18.

[29] Vincent Tinto, Leaving College (Chicago: The University of Chicago Press, 1987), 152.

Other authors have argued that information is critical to decrease the sense of alienation that new students frequently feel when entering an institution and which has been cited as contributing to poor retention.[30] Students need to be told that, despite some level of academic or social deficiency, they are an important part of the college community and will contribute to it as much as they will gain from the community. As Gravenberg and Rivers point out, "Successful retention programs for academically underprepared students thus must provide information early--prior to or at the time of matriculation--to ensure that students understand what is expected of them early on in their experience and have a reasonable amount of time to adjust emotionally to these expectations."[31] Therefore information about academic performance and other requirements of college can help to contribute to the "demystifying" of the college experience.

An evaluation of the Special Services for Disadvantaged Students (SSDS) program, a federal program which provides remedial and other services to students, echoes these concerns about academic information services helping to clarify student

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[30] See the discussion of intellectual and social integration as important factors affecting minority participation in higher education in "Factors Affecting Minority Participation in Higher Education: A Research Synthesis."

[31] Eric V. Gravenberg and John H. Rivers, "Learning Assistance Programs," in Lee Noel, et. al. eds., Increasing Student Retention (San Francisco: Jossey-Bass, 1985), 265.

goals and adjust to college life.[32] According to this study's survey of students who had left school, "unclear goals" was the second most common reason cited for leaving college. Only "need of money" was cited more often by survey respondents.

This study also examined the participation of SSDS clients in specific kinds of special services, and inquired about how helpful these services were. Participants cited tutoring and counseling as the most commonly used services. In ranking the quality of the services received, students indicated that tutoring by faculty was the most helpful, followed by study skills instruction and instruction in reading and writing. Thus this evaluation of the SSDS program suggests that remedial and tutorial services are important sources of information for college students.[33]

Studies of the effects of financial aid on persistence add a wrinkle to this discussion about information and its influence on retention and completion. According to Terkla and others, receipt of financial aid has a strong effect on persistence. She found that those receiving aid were more likely than others to complete their degree (other factors, such as pre-college academic preparation and educational aspirations,

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[32] John E. Coulson and Clarence Bradford, "Evaluation of the Special Services for Disadvantaged Students (SSDS) Program: Final Report," U.S. Department of Education Contract Number 300-78-0356, Washington, DC: System Development Corporation, October, 1983.

[33] The study also found that those who received SSDS services were more likely to persist than those who did not receive services. See the discussion of the outcomes of the SSDS program in the following paper of this series.

were also found to have an important effect).[34] However, other studies have questioned whether there is a clear link between the receipt of aid and persistence.[35] Regrettably, the research is virtually silent about whether student aid information has any effects. Thus student aid information may be an important part of the retention and completion puzzle, though it is not clear that this is necessarily the case.

Interestingly, part of this dilemma about whether student aid has an effect on persistence may relate directly to information. Tinto has suggested that many students who complete surveys about why they left a college cite "financial aid" on a questionnaire when they really means that they do not believe that the economic returns to education are sufficient.[36] In this sense, it would appear that students are not adequately informed about what "financial aid" really means--a potentially significant finding in and of itself--nor are they sufficiently knowledgeable about the returns to education. More research on this topic is clearly needed.

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[34] Dawn Geronimo Terkla, "Does Financial Aid Enhance Undergraduate Persistence?" Journal of Student Financial Aid, Vol. 15, No. 3 (Fall, 1985), 11-18. See also Larry L. Leslie and Paul T. Brinkman, The Economic Value of Higher Education (New York: Macmillan/ACE, 1988).

[35] See, for example, T.A. Murdock, "The Effect of Financial Aid on Student Persistence," Paper presented at the annual meeting of the Association for the Study of Higher Education, San Diego, CA, 1987.

[36] He also questions whether the survey samples and instruments may be biased. Vincent Tinto, "Student Persistence in Higher Education: What Sociologists Have to Say," Paper presented at the Seventh Annual NASSGP/NCHELP Research Network Conference, Washington, DC, May 16, 1990.

The finite research on the effects of academic and financial information on persistence suggests that both play an important role in eventual degree attainment. The need for adequate information is important both to ensure that students achieve a degree and to make informed decisions about post-college plans.

III. CONCLUSION

The framework of student and parent information needs described in the introduction to this paper suggests that students and parents need different kinds of information at different points in the educational process. It also indicates that these needs increase at the student proceeds to the next stages of schooling. Thus this paper has attempted to describe the kinds and types of information that students need, and how these needs change over time. While the review of the literature undertaken for this paper relative to each of the "cells" of the framework has not been exhaustive, it does suggest that there are several important shortcomings in student and parent knowledge throughout the educational process.

Research on information does not take this framework of student and parent information needs into account. While some studies fit into the cells of the matrix, most address several broad or cross-cutting time periods. Further, in some of the categories of information relatively little attention has been paid by researchers. Thus, while this paper was not able to fully utilize the framework, future researchers may want to keep this model in mind when formulating research designs. The remainder of the discussion in this paper uses the traditional schooling model of pre-high school, high school, and college as the context for discussion.

Studies of information availability and needs prior to high school suggest that both students and parents are limited in their knowledge of college and what it takes to get there. For instance, neither has an adequate awareness or understanding of financial aid programs. Student and parent knowledge about what it costs to attend college, as well as what academic standards are needed to make it at the postsecondary level, is also limited. Low income families from inner city areas, and those families that do not have prior experience with college attendance, appear to be least informed about college in general, though these families do appear to have greater awareness of student aid grant programs.

One consistent finding of the studies in this area is that students and parents are dissatisfied with the information they do receive. The need for better information is therefore clear from these studies. However, there is some evidence that college information may be of relatively low interest to students at this stage, especially those who do not consider themselves college-bound. This suggests that there may be some limits to the effects that information, as a single intervention strategy, can have on the decision to pursue postsecondary education.

At the high school level, it is evident that the amount of information students have is also limited. There is some research evidence to suggest that awareness of

college grows while the student is in high school. However, even given this possible improvement in knowledge about college, students and parents are largely misinformed or uninformed.

Students and parents at the high school level still do not know a great deal about financial aid programs. Nor do they have a good understanding of what it costs to go to college, and what the effect student aid might have on the actual cost to the family. In fact, there is some indication that this lack of accurate information about aid could limit college-bound students to apply to lower cost institutions. Further, most people are apparently unaware of the economic value of obtaining a college degree.

The literature also suggests that access to information resources and services may be more limited for low income high school students. City schools appear to have fewer resources for students interested in attending college, in part because these schools often send lower percentages of their students to college compared to other schools. Thus the system appears to favor those who are already on the college track.

At the college level, information about the academic and financial resources needed to succeed in college appears limited. However, there is clearly a dearth of research on this topic, especially with respect to financial information's effects on retention and degree attainment.

The limited research in this field suggests that, like the many other factors affecting minority participation in higher education, the role of information in determining postsecondary participation and aspirations is complex. However, the literature does stress several consistent themes. For example, it would appear that information about college is most lacking at the earlier educational levels and improves only marginally at later points in the educational pipeline. Also, the research suggests that information targeted more on parents in the early years may be more effective. It would also seem that the knowledge families do have is frequently informed by informal sources, and regrettably is sometimes inaccurate. Further, low income students may be at somewhat of a disadvantage compared to other students with regard to access to accurate and complete information. In general, however, those who are predisposed to attend college appear to be most informed about college, regardless of social or economic background.

These findings allow for several broad conclusions to be drawn about the role of information. These conclusions are:

- **There are important information shortfalls early on in the educational process.** The research suggests that information needs are greatest early in a child's schooling. Some effort to generally inform students and, perhaps most importantly, parents about college in these early years could be important,

especially for those who do not have prior personal experience with college attendance.

- **There are gaps in the information system which make the process of obtaining information least effective at perhaps the most important times.** Though the research suggests that the knowledge of students and parents grows as students continue on to high school, there are still significant disparities in their information needs and desires. Reinforcement about the availability of financial assistance, the economic value of higher education, the necessary steps to achieve college enrollment, and other matters may therefore be important.

- **Information is a key component of successful intervention strategies, but is only one of many.** The literature clearly indicates that there are limits to the utility of information as a single intervention strategy. Thus information should be viewed as a necessary, but not sufficient, component of broader intervention approaches.

- **High school guidance counselors, financial aid administrators, college admissions counselors, and other secondary and postsecondary institutional representatives are key components in the successful dissemination of information.** The research indicates that students and families are most interested in, and respond positively to, information provided by the colleges

themselves. Thus an ideal program would heed these findings to ensure that the desires of information recipients are being met.

- **Current information needs are not monitored well and programs are not tracked to provide sufficient feedback.** Participants in programs must be tracked in order to enforce programmatic accountability and integrity. Ongoing evaluations would also help to refine program goals and approaches as more is learned about the program's strengths and weaknesses.

Though tentative, these conclusions suggest that an ideal information program must adequately address several important concerns about the need for information and the proper role that in plays in promoting meaningful access to higher education. These concerns can be characterized as:

- TIMING - There is clearly a connection between when students receive information and their eventual participation in higher education.

- CONTINUITY- The "baton exchange" between various players at different levels in the system is critically important to ensuring that students receive the right kinds and amount of services.

- COMPREHENSIVENESS - It appears that single interventions might be less effective than those that are integrated and coordinated with a full range of other strategies and approaches.

- INVOLVEMENT - Personnel from both the school systems and colleges and universities play a major role in seeing that information reaches its intended beneficiaries.

- FEEDBACK - The need to learn more about information needs, as demonstrated by the paucity of research and data on the subject, is important to the long-term process of deciding what works.

The next step in the Advisory Committee's work in this area is to examine model information programs that have been implemented or proposed and discuss federal intervention strategies that currently exist. An analysis of these programs and strategies will then be used to explore ways in which the principles identified above might be operationalized at the federal level. The Advisory Committee's recommendations regarding early information resources and programs are to be derived from this process.